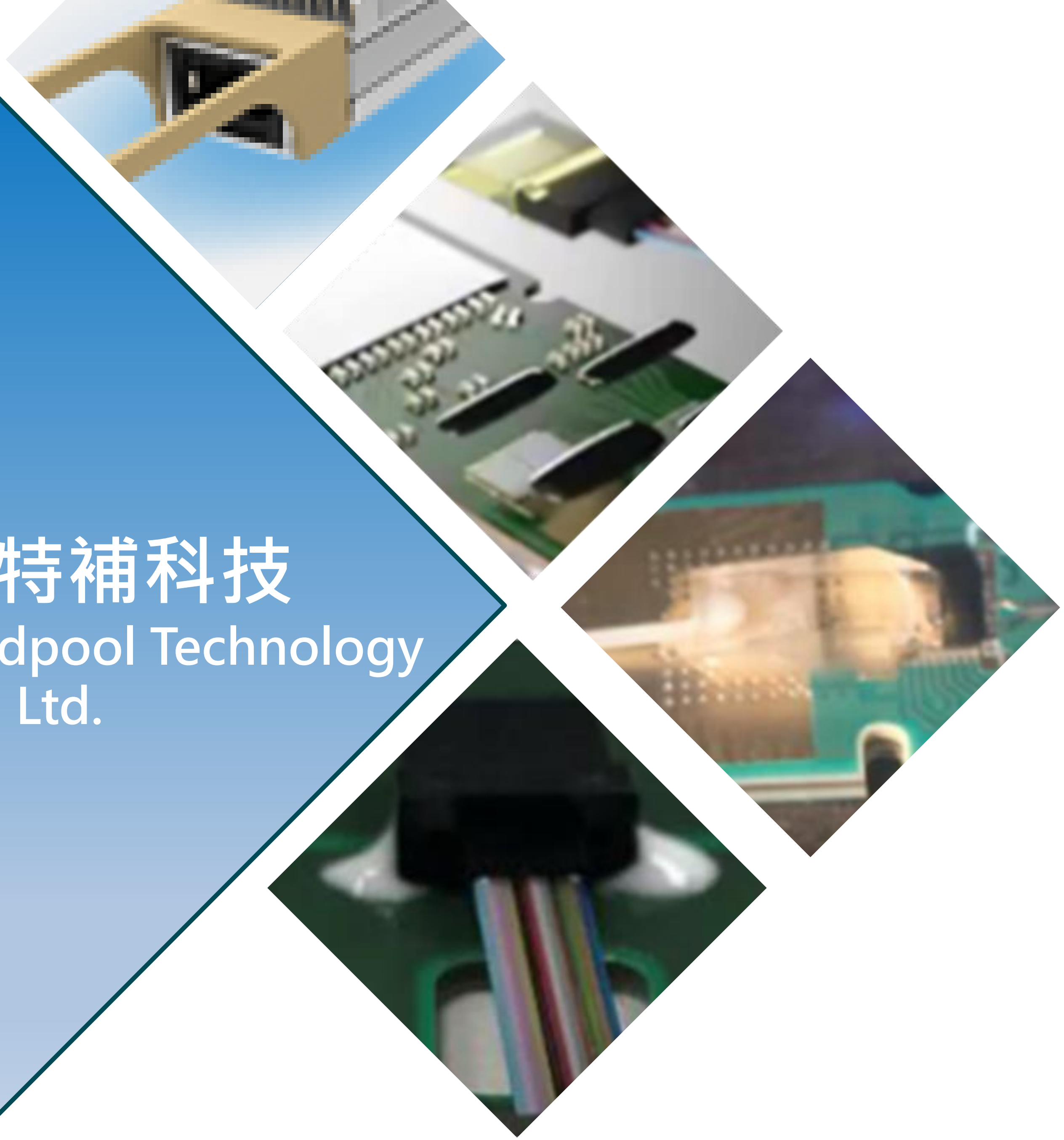


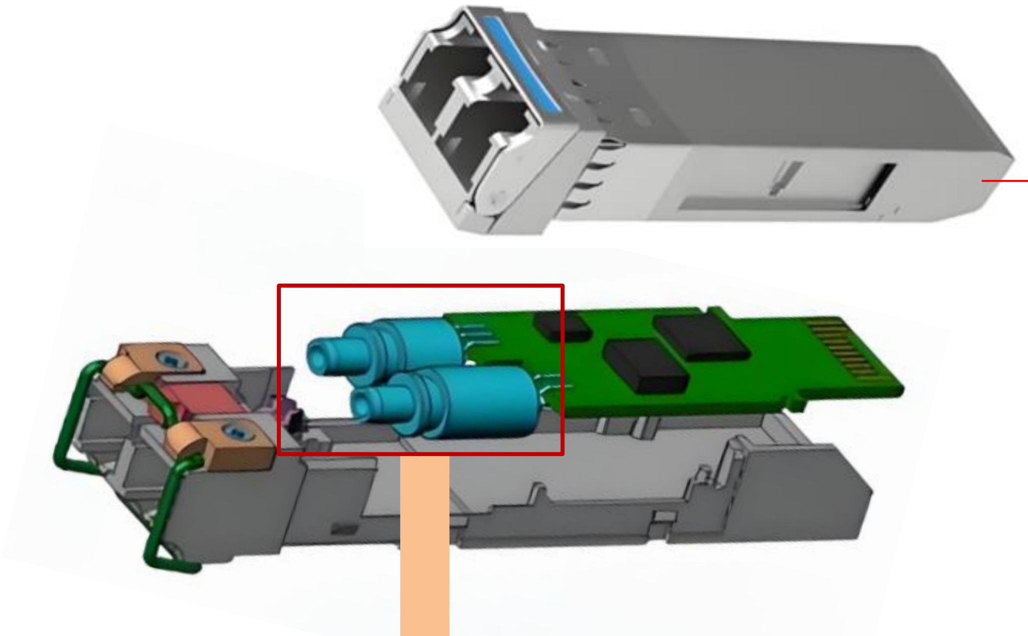
肥特補科技
Feedpool Technology
Co., Ltd.

- ☑ Fast UV cure, thermal post-cure
- ☑ Strong adhesion to various substrates
- ☑ Low CTE, high dimensional stability

UV-Thermal Dual-Cure Insulating Adhesive

EP-28-3410-60M

Optical Module Product Applications

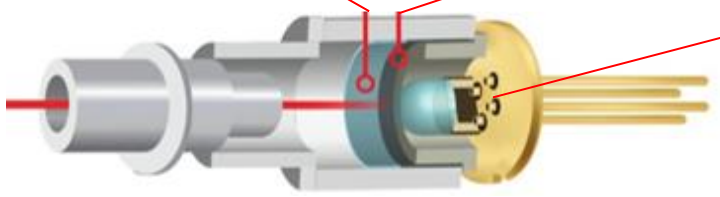


Electromagnetic shielding
- SP-1000-008-02
- FP-1725-R22

EMI absorbers
- RF-5 SERIES
- FP-IN -SERIES

Alignment
- EP-28-3410-50/60 SERIES

Fixed/encapsulated
- EP-30-BF3-1
- AP-2100-C6(AB)



Laser diode bonding
- FP-6000-HP
- FP-5100FA
- FP-5100-E4
- FP-1725-B6
- FP-5300TC-20A
- FP-1725-E9

UV/Thermal Dual-Cure Adhesive EP-28-3410-60M

As the optical industry scales, the demand for massive data transmission has driven module power levels higher. To address these thermal challenges, Feedpool has developed a high-performance UV/Thermal Dual-Cure adhesive.

The EP-28-3410-60M offers the following key advantages:

- **Rapid UV Curing**: Enables instant positioning and bonding of precision components.
- **Low CTE**: Ensures dimensional stability under thermal variations; ideal for alignment and fixation of precision optical components.
- **Broad Adhesion**: Reliable bonding to Glass, Metal, PEI, PCB, Ceramic, Gold-coated, Aluminum, and FeNi alloys.
- **Environmental Resistance**: Excellent thermal conductivity and sealing; provides waterproof protection and thermal shock resistance.
- **Primary Application**: Optical modules.

Physical Properties of EP-28-3410-60M

Physical Properties	
Appearance	Milky White
Density	1.82 g/cm^3
Viscosity @ 25℃	80000 cp
TI @ 25℃	1.18
Work Life @ 25℃	24 hrs
Storage Life @ -20 ~ -40℃	6 months

Curing Condition	
UV curing	High Pressure Hg Lamp(200~500nm) or UV LED (365nm) 2000~4000 mJ/cm^2
Thermal curing	70℃@90 mins or 85℃@75 mins or 100℃@60 mins
Cured Properties	
Hardness	Shore D 92
Tg	125 ℃
CTE < Tg(α1)	16 ppm/℃
CTE > Tg(α2)	61 ppm/℃
Modulus @25℃	10300 MPa

Comparison of Physical Properties

	OPTOCAST 3410 VM	EP-28-3410-60M
Appearance	Milky White	Milky White
Density (g/cm^3)	1.85	1.82
Viscosity@25℃ (cp)	60000	80000
TI @25℃	1.22	1.18
Filler Content (%)	78.5	75.5
Hardness (ShoreD)	92	92
CTE (ppm/℃)	12 / 39	16 / 61
Tg (℃)	169	125
Modulus (MPa)	13615	10300

Comparison of Curing Condition

	OPTOCAST 3410 VM	EP-28-3410-60M
UV Curing	320 ~ 550nm	320 ~ 550nm or UVLED(365nm) 2000 ~ 4000 mJ/cm^2
Thermal Curing	110 ~130℃ @10~30min (No Low Temperature Curing)	70℃@90 mins or 85℃@75 mins or 100℃@60 mins

Adhesion Comparison with Commercial Products

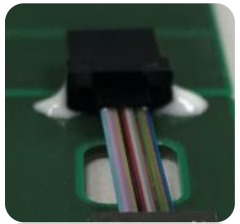
Cured Properties		OPTOCAST 3410 VM	EP-28-3410-60M	FeedPool Test Method
Substrate	PEI	○	○	Post Curing Evaluation
	FeNi alloy	○	○	
	Al	○	○	
	FPC /PCB	○	○	
	Gold-coated	○	○	
	Glass	○	○	

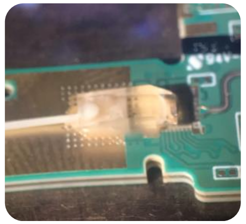
Reliability TCT (-40℃/30mins~120℃/30mins，10 cycles)				
Substrate	PEI	○	○	Post Curing Evaluation
	FeNi alloy	○	○	
	Al	○	○	
	FPC /PCB	○	○	
	Gold-coated	○	○	
	Glass	○	○	


PEI


FeNi alloy


Al


FPC/PCB


Gold-coated


Glass

Curing Conditions and Shear Strength-Customer Test Results

Sample SN	A	B	C	D	E	F	G	H	I	J	K	L
Setting	Dispensing Time 5s，Pressure 6kg/cm^2											
Height of UV Light	20mm											
Power of UV Light(mW)	500	500	500	500	500	500	311	311	311	311	311	311
Curing Time(sec.)	10	10	15	15	20	20	10	10	15	15	20	20
Intensity of UV Light(mJ/ cm^2)	5000	5000	7500	7500	10000	10000	3110	3110	4665	4665	6220	6220
Curing Condition	70℃-90 min											
Shear Strength(kgf)	8.07	9.16	9.65	9.66	9.64	9.54	9.64	9.64	9.64	9.65	9.65	9.64
Adhesive Interior	Cured	Cured	Cured	Cured	Cured	Cured	Cured	Cured	Cured	Cured	Cured	Cured
Appearance	White	White	White	White	White	White	White	White	White	White	White	White

Curing Condition

3000~10000 mJ/cm^2 + 70℃ 90min

Shear strength >8kgf，and adhesive residue on PCB.

A & B

After Curing

Adhesive Residue Status

C & D

After Curing

Adhesive Residue Status

E & F

After Curing

Adhesive Residue Status

G & H

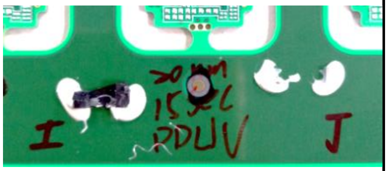
After Curing

Adhesive Residue Status

I & J

After Curing

Adhesive Residue Status



K & L

After Curing

Adhesive Residue Status

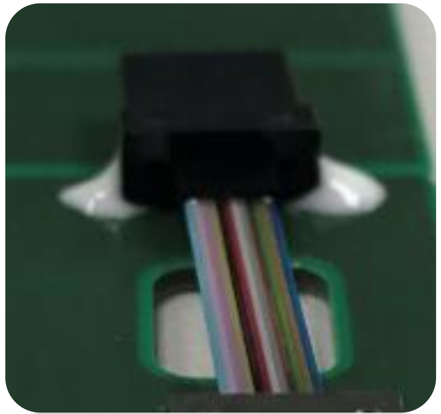
TCT Reliability

TCT Reliability Test		FeedBond® EP-28-60M					FeedPool Test Method
		Initial	24 cycles	48 cycles	72 cycles	100 cycles	
Substrate	PEI	No cracking or peeling	No cracking or peeling	No cracking or peeling	No cracking or peeling	No cracking or peeling	Post Curing Evaluation
	FPC /PCB	No cracking or peeling	No cracking or peeling	No cracking or peeling	No cracking or peeling	No cracking or peeling	
	Gold-coated	No cracking or peeling	No cracking or peeling	No cracking or peeling	No cracking or peeling	No cracking or peeling	

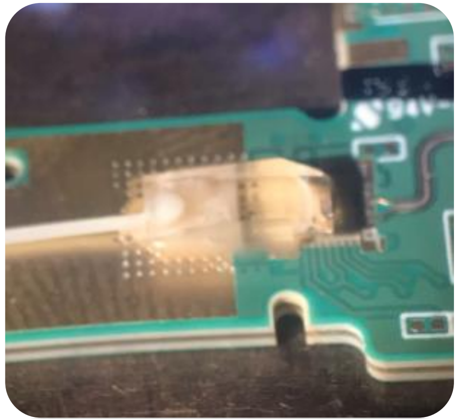
TCT Condition:-40℃/30mins~120℃/30mins (1cycle)

The above data are laboratory results provided for reference only. Customers should conduct thorough testing based on their specific application conditions.

PEI



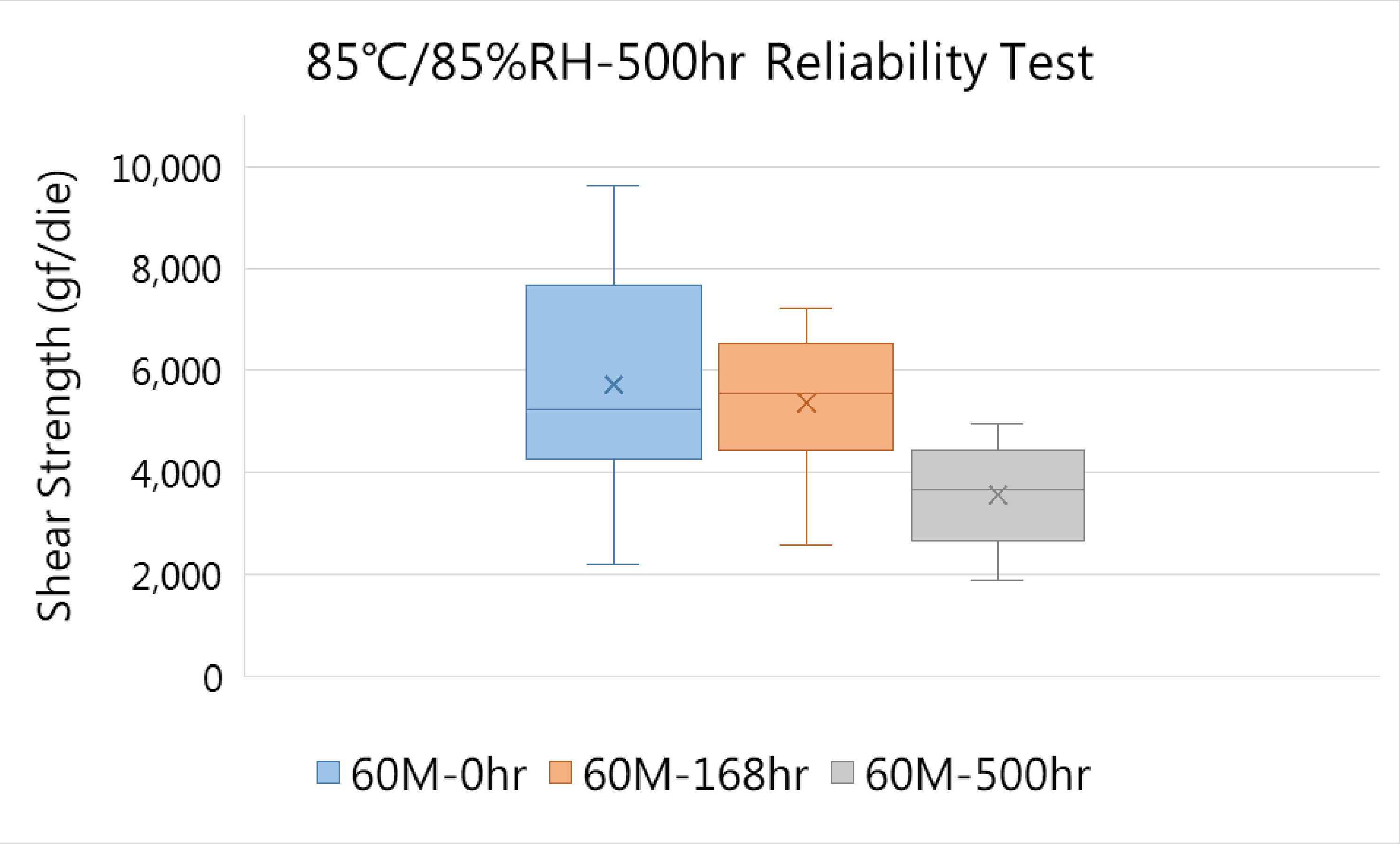
FPC/PCB



Gold-coated

EP-28-3410-60M has no peeling or cracking after TCT /100cycles

85℃/85%RH Reliability Test



Curing Condition: 3000mJ/cm^2 + 100℃-1hr

Adherends: 1mm*1mm Si die / glass

Adhesion on Various Substrates and TCT Reliability

Cured Properties		OPTOCAST 3410 GEN2	FeedBond® EP-28-3410-50K	FeedBond® EP-28-3410-60M	FeedPool Test Method
Substrate	PEI	○	○	○	Post Curing Evaluation
	FeNi alloy	○	○	○	
	Al	○	○	○	
	FPC /PCB	○	○	○	
	Gold-coated	○	○	○	
	Glass	○	○	○	

Reliability TCT (-40℃/30mins~120℃/30mins, 10 cycles)					
Substrate	PEI	○	○	○	Post Curing Evaluation
	FeNi alloy	○	○	○	
	Al	○	○	○	
	FPC /PCB	○	○	○	
	Gold-coated	○	○	○	
	Glass	○	○	○	

The data above are measured under laboratory conditions and are for reference only. Customers are advised to conduct thorough testing under their specific application conditions to ensure accuracy


Al

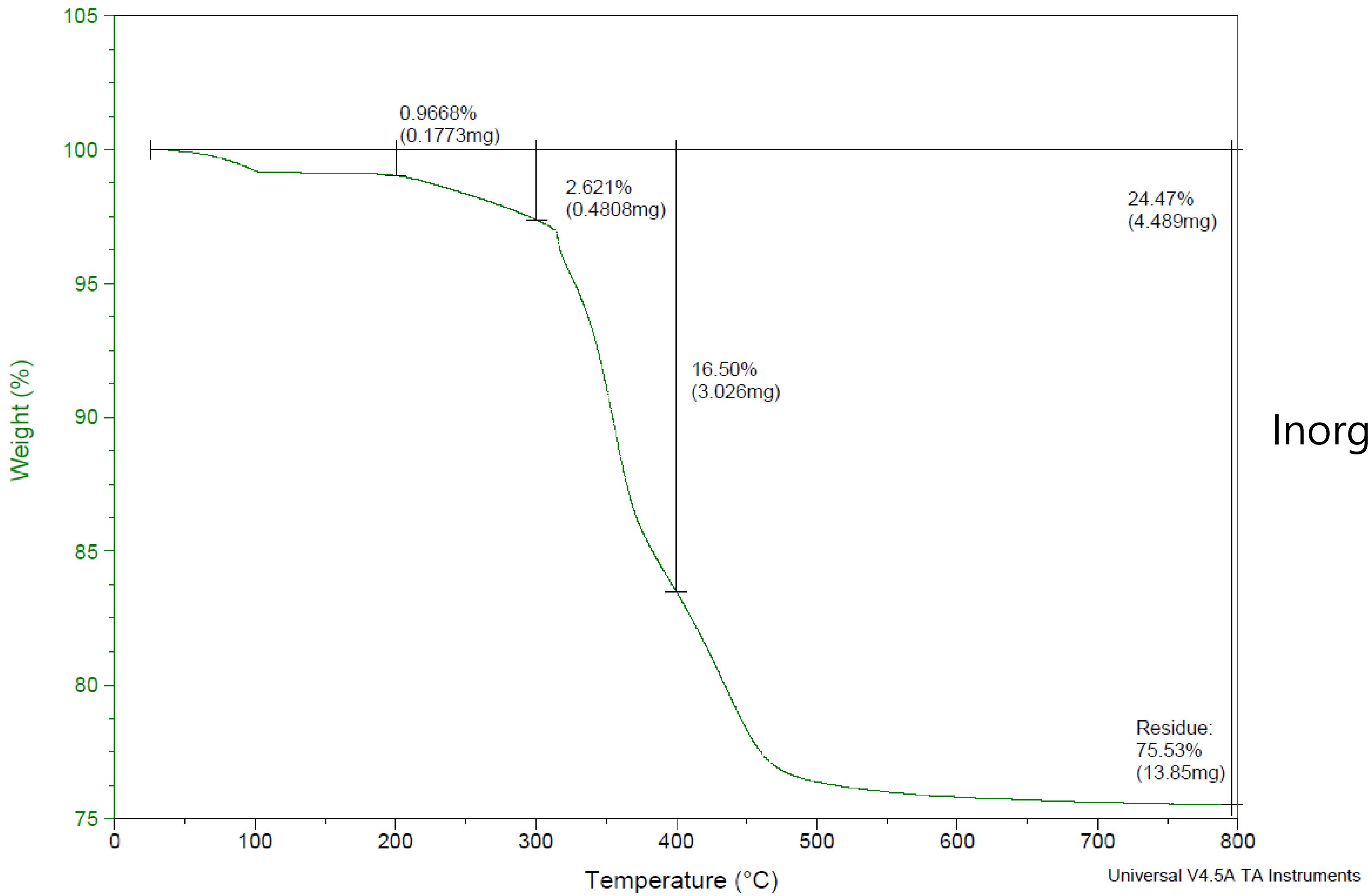

PEI


FPC


FeNi alloy

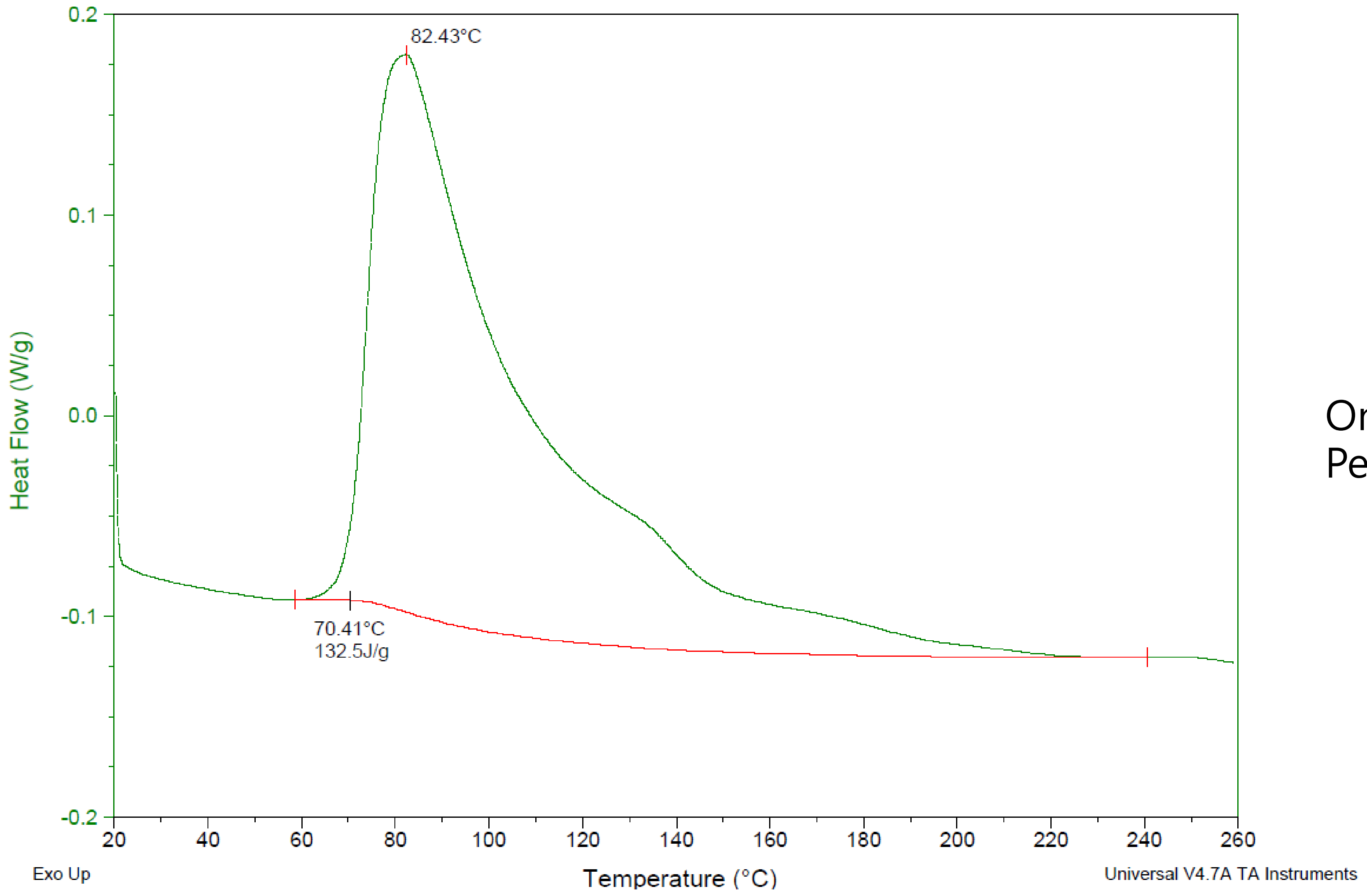

Glass

TGA



Inorganic Substance Content 75.53%

DSC



Onset of Exotherm 70.41℃
Peak Exotherm 82.43℃

如需進一步資訊，歡迎與我們聯繫：
For more information, please feel free to contact us:

肥特補科技股份有限公司
Feedpool Technology Co., Ltd.

📍 桃園市楊梅區永平路607巷7號
No. 7 ,Lane 607 , Yung Ping Road,
Yang Mei District (326).
Tao Yuan City,Taiwan.

✉ service@feedpool.com.tw
☎ 886-3-4813158-62
📠 886-3-4813059
🌐 http://www.feedpool.com